

IPRL OFFSHOOTS



USDA-ARS Invasive Plant Research Laboratory
3225 College Avenue
Fort Lauderdale, Florida 33314

October 2005

Upcoming Events

32nd Annual Conference on
Ecosystems Restoration &
Creation

October 27-28, 2005

Hillsborough Community
College, Tampa, Florida

[www.hccfl.edu/depts/dept/e
coconf.html](http://www.hccfl.edu/depts/dept/e
coconf.html)

Entomological Society of
America Annual Meeting and
Exhibition

November 6-9, 2005

Fort Lauderdale, Florida

www.entsoc.org

29th Annual Florida Aquatic
Plant Management Society
meeting

November 7-10, 2005

St. Petersburg, Florida

www.fapms.org

10th Annual Exotic Species
Workshop for Southwest
Florida

December 7, 2005

Rookery Bay Environmental
Learning Center
Naples, Florida

More upcoming events on page 6

We're extremely busy here at the IPRL, as you will be able tell by the articles in this report. Here you will find updates on some of the more well-known projects like the work on melaleuca and skunk vine as well as information on work being started on air potato and lobate lac scale.

John Scoles - Editor ■

Potential biological control agents for lobate lac scale now in quarantine

Dr. Robert Pemberton traveled to India to meet with cooperators in the search of potential biological control agents for lobate lac scale. Dr. Pemberton brought back lobate lac scales and is now rearing parasitoids from those specimens on plants infested with the lobate lac scale that is infesting Florida. As the parasitoids emerge, Pemberton hopes to find ones that will attack the scales so he can begin host specificity testing.

Also, post-doctoral assistant Dr. Hong Liu is working with Dr. William Howard from the University of Florida and Dr. Pemberton from the IPRL to study the impact of lobate lac scale on Florida's native plants. You will see more information about the work she is doing in future reports. ■



A view of the maximum quarantine greenhouse at the Invasive Plant Research Laboratory's new containment facility

Photo by John Scoles

Update on Lygodium

On February 14, 2005 teams of scientists from the IPRL, Florida's Department of Environmental Protection, and the South Florida



Lygodium microphyllum
at Strazzulla tract in
Palm Beach County

Photo by Paul Pratt

Water Management District converged on Jonathan Dickinson State Park in Martin County to release the first biological control agent for the old world climbing fern, *Lygodium microphyllum*. To date scientists have released 12,000 lygodium moths (*Austromusotima camptonozale*) at two nursery sites and seven research sites. Some of the moths are caged and some are in the open. The adults in the

cages are breeding but there has been no confirmed evidence of adults breeding in the wild.

There are three more potential lygodium biological control agents in the pipeline. The first is another moth, *Neomusotima conspurcatalis*. This moth thrives in warmer seasons while *austromusotima* prefers cooler ones. The second agent is a leaf-gall mite (*Floracarus* sp.) The mite is in culture in Australia and we are awaiting the APHIS permit to bring it here for further testing. The third agent is a saw-fly from Thailand, *Neostrombocerus* sp. The saw-fly is currently in quarantine at the IPRL lab in Gainesville where scientists are conducting host specificity tests.



Ribbon-cutting ceremony
at the Invasive Plant
Research Laboratory

Photo by John Scoles

New containment facility now in full operation

For the last few years the staff at the IPRL has worked tirelessly at preparing the new containment facility for the day that it would become a functional laboratory and quarantine. That day arrived on April 8, 2005 and was highlighted by a ribbon cutting ceremony (see photo). Dignitaries from all levels of government participated in the event. And today the facility is fully functional.

Participants in the ribbon cutting, from left to right in the photo: Tom Truex, Mayor of the City of Davie, Florida; Dennis Duke, U.S. Army Corps of Engineers; Dr. Darrell Cole, Director of the South Atlantic Area of the ARS; Dr. Ed Knipling, head of the ARS; Clay Shaw, U.S. Congressman from Florida's 22nd congressional district; Dr. Rodney Brown, Undersecretary of Agriculture for Research; Henry Dean, South Florida Water Management District; Mark Musaus, Manager of the Loxahatchee National Wildlife Refuge; Colonel Rock Salt, Director of the Everglades Restoration Initiatives; Will James, Area Director USDA APHIS PPQ; and Dr. Ted Center, Research Leader for the IPRL.

Update on the Melaleuca gall-fly, *Fergusonina turneri*

The melaleuca gall fly (see the March, '04 issue) is now out of quarantine and preliminary releases are underway to determine if the fly can establish and develop a self-sustaining population in the wild. Dr. Paul Pratt, post-doctoral assistant Dr. Scott Blackwood, and biological technician Deah Lieurance are trying to determine the best way to rear and release this new biological control agent for melaleuca. Flies were released at six sites in South Florida. Three release methods were tried: open-field releases of adult flies, enclosing adult flies in cages on melaleuca, and positioning melaleuca that contained galls in close proximity to trees at the sites. While establishment has not yet been detected, releases scheduled for the upcoming winter are expected to be more effective; a seasonal fluctuation in numbers of galls found on melaleuca occurs in the fly's native range (Queensland and New South Wales, Australia), where galls become particularly common during the winter months.

Update on the TAME Melaleuca project

One of the major goals of the TAME Melaleuca project is educational outreach. Much of the work on the project over the past year or so culminated in a series of demonstration events designed to show resource managers, land managers, and homeowners various melaleuca treatment methods, especially biological control and how it fits into integrated pest management. The demonstrations were held from mid-March through early May at five separate locations across South Florida. Most of the events were two days long.

The first day was dedicated to professional land managers who have the responsibility of managing large tracks of land. The project showed them several of the treatment methods being deployed,

including aerial spraying, mechanical removal using large machinery, and more labor-intensive methods of cutting using machetes and chainsaws.

Professional land managers responsible for public and private lands across South Florida attended the event. Attendees spent the morning in lectures given by the experts, including Dr. Paul Pratt, Director of the TAME Melaleuca project and research entomologist for the ARS. Cressida Silvers, project coordinator for the TAME Melaleuca project and ARS entomologist, moderated the lectures.



Dr. Ken Langeland instructs Melaleuca 2005 attendees at the Prairie Pines demonstration site in Lee County

Photo by Scott Wiggers.

The group then moved to a demonstration site for a first-hand look at the various treatments. It took several hours to cover the entire site and visit each treatment plot. Professionals from various federal, state, and county agencies described the treatments to the attendees. Several organizations awarded Continuing Education Units for attendance.

The second day concentrated on homeowner's needs. One of the demonstration plots is dedicated to treatment methods and products available to homeowners. The attendees at this event took a particular interest in the biological control insects at the site. Although the insects are now available just about anywhere melaleuca is found, the attendees made a point of collecting them for redistribution on their own property.

These TAME Melaleuca project demonstrations will be repeated in early 2006 (January-February timeframe) to show land managers how the sites look a year later.

Skunk vine and air potato

While Dr. Pemberton was on his trip to India, he stopped in Nepal and picked up specimens of two leaf beetles for study as potential biological control agents for skunk vine and air potato. The leaf beetles are now in quarantine at the IPRL. *Sphenorala rutilens*, the potential agent for skunk vine is an iridescent beetle about one centimeter long. Pemberton hopes that *Sphenorala* will also work with sewer vine, which is closely related to skunk vine.

Website you may Want to visit

To learn more about invasive plants and what various organizations are doing about them, visit the following sites on the internet.

Agricultural Research Service
www.ars.usda.gov/

Center for Exotic and Invasive Plants
<http://plants.ifas.ufl.edu>

Federal Noxious Weed Program
www.aphis.usda.gov/ppq/weeds

Florida Department of Agriculture,
Department of Plant Industry
www.doacs.state.fl.us/~pi/index.html

Florida Department of Environmental
Protection,
Bureau of Invasive Plant Management
www.dep.state.fl.us/lands/invaspec/

Florida Exotic Pest Plant Council
www.fleppc.org

Invasive Plant Research Laboratory
www.weedbiocontrol.org/

The National Agricultural Library's Invasive
Species website
www.invasivespecies.gov

National Noxious Weed Program
<http://dogwood.itc.nrcs.usda.gov/weeds>

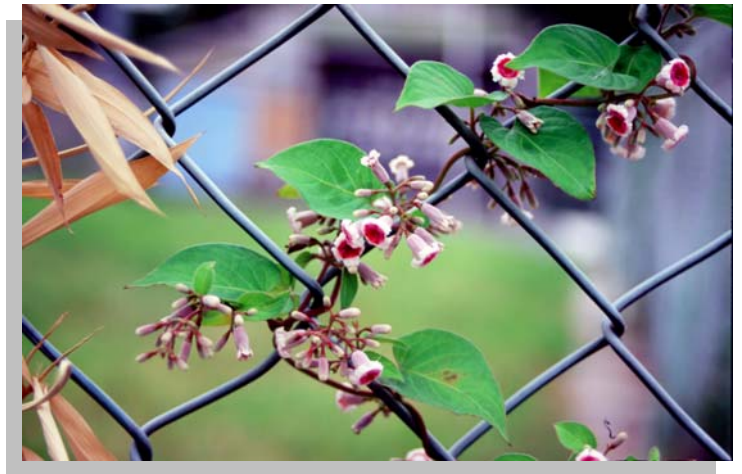
South Florida Water Management District
www.sfwmd.gov

Southwest Florida Water Management
District
www.swfwmd.state.fl.us/

TAME Melaleuca Project
<http://tame.ifas.ufl.edu>

The Nature Conservancy
<http://nature.org/>

The other leaf beetle is *Lilioceris* sp. This is the potential agent for air potato. It is black with brown wing covers and about twelve millimeters long. Both the adults and larvae of *Lilioceris* feed on air potato leaves and aerial tubers or bulbils. Pemberton is interested in the insect's feeding on these bulbils because air potato spreads mainly by producing the bulbils.



Skunk vine leaves and
flowers

Photo by Paul Pratt

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More Upcoming Events

Weed Science Society of America
Annual Meeting
February 13-17, 2006
New York, New York
www.wssa.net

5th National IPM Symposium
April 4-6, 2006
St. Louis, Missouri
www.ipmcenters.org/ipmsymposiumv

14th International Conference on
Aquatic Invasive Species
May 14-19, 2006
Miami, Florida
www.icaais.org

26th Annual Florida Native Plant
Society Conference
May 18-21, 2006
Daytona Beach, Florida
www.fnps.org

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Previous reports are available at:

<http://tame.ifas.ufl.edu/html/publications.htm>

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